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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/152,659

09/14/1998

DAVID J. CORISIS

MICS:0180-2

9522

52142

7590

10/16/2007

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EXAMINER

CHEVINSKY, BORIS LEO

ART UNIT

PAPER NUMBER

2835

MAIL DATE

DELIVERY MODE

10/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/152,659

Applicant(s)

CORISIS ET AL.

Examiner

Boris L. Chervinsky

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2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-45 and 68-74 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-45, 68-74 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 33-38, 41, 42, 68, 69, 70, 71-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiu in view of Jeffries et al. or alternatively in view of either Edfors or Russell et al.

Chiu discloses an electronic device, comprising: a plurality of integrated circuit packages 10; a contact surface 32,33 electrically connected to each of said packages; and a support 31 arranged to engage each of said packages at a point spaced above said surface to prevent movement of said packages relative to said surface; each of said packages is contacted on its upper end; the support 31 includes a pair of surfaces 16 which engage each of said packages on two opposed surfaces, sandwiching said packages; the support is resiliently biased against the sides of said packages (see Fig. 10); the support 31 contacts the side edges of said packages 10; the support 31 is made of a heat conducting material. With respect to claims 68 and 69, Chiu discloses an electronic device comprising a plurality of integrated circuit packages 10 connected to a surface 33; and at least one rail 31 coupled to the surface 33, wherein the rail extends along the sides of the plurality of integrated circuit packages and is configured to engage the plurality of integrated circuit packages 10; the at least one rail is coupled

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to the surface by at least one post coupled to the surface and extending perpendicularly therefrom.

With respect to claims 71-73, Chiu discloses an electronic device, comprising: a plurality of integrated circuit packages 10 connected to a surface 33; and a cross piece (upper part of the support 31) coupled to the surface and extending over the plurality of integrated circuit packages 10 in a direction transverse to the plurality of integrated circuit packages; a plurality of supports (vertical portions of 31) extend from the cross piece towards the surface 33 and 16 and are configured to engage the plurality of integrated circuit packages. With respect to claims 41 and 70 Chiu discloses the claimed invention except extending tabs/notch arrangement having tab extending from the support and the notch is disposed in the module. Jeffries discloses the notch in the support. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide tab extending from the support and engaging the notch in the module as one of the choices to provide reliable structural contact since and is well known in the art and it appears to be not critical for the invention.

Chiu discloses the claimed invention except having the support being secured to the surface. Jeffries, as well as Edfors and Russell, discloses the support being secured to the surface of a circuit board. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to secure the support as disclosed by Jeffries and others in the device disclosed by Chiu for better stability.

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3. Claims 39, 40, 43-45, 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiu in view of Jeffries et al. and further in view of Cipolla et al. or alternatively in view of Shuff.

Chiu discloses the claimed invention except resilient or foam material. Cipolla (see abstract) as well as Shuff (see abstract) disclose the resilient or foam material used to engage modules. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the resilient material or foam as disclosed by Cipolla or Shuff in the device disclosed by Chiu in order to provide reliable contact and thermal conduction.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris L. Chervinsky whose telephone number is 571-272-2039. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayprakash N. Gandhi can be reached on 571-272-3740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BORIS CHERVINSKY
PRIMARY EXAMINER

Boris L. Chervinsky
10/10/17